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ABSTRACT

Since 1976, Mississippi's Itawamba Community College (ICC) and Tecumseh Products Company (TPC) have maintained a cooperative relationship providing the firm with support and services stemming from ICC's Skill/Tech One-Stop Career Center. The support offered to TPC has included the following: (1) since 1976, 105 pre-employment classes have been held for more than 900 prospective employees; (2) adult basic education classes have been offered in-plant since 1985; (3) apprenticeship training curricula has been developed for electronic technicians, manufacturing technicians, tool and die makers, and tool grinders; (4) between 1986 and 1990, TPC and ICC engaged in employee upgrade training and retraining programs to help employees cope with production changes; (5) since January 1991, TPC has received more than $271,257 in state support for customized training and more than $1.75 million is planned for 1995; (6) ICC has offered leadership and management training programs for TPC employees since 1991; (7) technical training based on credit courses offered at the college; (8) ICC and Mississippi State University have created 3 videotapes which have trained over 600 employees; (9) a cooperative summer employment program provides quality temporary summer employees for TPC while giving ICC students hands-on experience; (10) ICC faculty spend 4 to 6 weeks working in the plant during the summer; and (11) generous donations from TPC's Herrick Foundation have allowed ICC to develop the Center for Advanced Manufacturing Technology. A chronology of programs offered and data on TPC staff trained are appended. (KP)

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ITAWAMBA COMMUNITY COLLEGE

and

TECUMSEH PRODUCTS COMPANY, INC.

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A High Performance Work Force Development Partnership

1995

JC 950 151

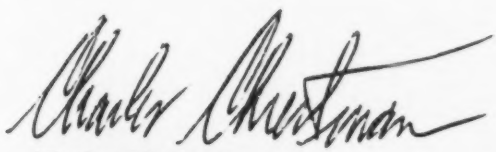
PRELUDE

Itawamba Community College in partnership with the Mississippi State Department of Education, Office of Vocational and Technical Education and the Mississippi State Board for Community and Junior Colleges maintains a **Skill/Tech One-Stop Career Center** to assist industry with human resource training and development. Industrial Services Coordinators are the single-point contacts for clients and serve as personal consultants in designing a training or continuous improvement plan for companies.

Services coordinated by the **Skill/Tech One-Stop Career Center** staff include strategies for employee recruitment, assessment and selection, job task analyses, pre-employment training, post-employment training, customized training, technical training, upgrade training, advanced technology training, and leadership and management training. Support needed for video tape and/or training manual development can also be coordinated by the center staff.

Services are typically provided at a site agreeable to the corporate client. In many instances laboratories and classrooms on the college campus are used in conjunction with plant site facilities to integrate classroom and real-world experiences into meaningful instruction. Itawamba Community College's **Skill/Tech One-Stop Career Center** is located on the Tupelo Campus and assistance is available twelve months a year.

The partnership highlighted in this publication is just one example of how **Skill/Tech One-Stop Career Center** services can be crafted to maximize benefits for companies across Mississippi. I want to thank Tecumseh Products Company, the State Board for Community and Junior Colleges, and the State Department of Education, Office of Vocational and Technical Education for allowing this story to be told. It is truly exemplary, and I hope you find it informative and encouraging.



Charles Chrestman
Dean of Career Education
and Community Services
Itawamba Community College

INTRODUCTION

This first Tecumseh Products Company plant built in Mississippi was designed to manufacture the AE compressor. The firm hired its first hourly employees on December 15, 1975, and produced its first crankcase in February 1976. In September 1976, the first complete AE compressor rolled off the assembly line in Lee County, Mississippi.

The manufacture of compressors was new to Northeast Mississippi, and many of the firm's new employees found difficulty in adapting to the manufacturing processes being used to build the AE compressor. In the fall of 1976, with the help of Itawamba Community College, company officials returned to Michigan to film production and assembly processes that would show Mississippi workers how their work was to be done. Ultimately, all the initial machine operators and assembly personnel on the AE production lines were trained with these films.

Perhaps of equal importance, this trip established a relationship, which spanned nearly two decades, between Itawamba Community College and Tecumseh Products Company. The information that follows attempts to profile much of the cooperation, service, and support that has evolved since 1976 out of the Itawamba Community College/Tecumseh Products Company Partnership.

PRE-EMPLOYMENT TRAINING

Since the beginning of the relationship, pre-employment training offered in partnership with Itawamba Community College has helped Tecumseh Products Company identify the employees needed to staff its facilities. The first program was developed in 1976, when ICC and TPC developed a curriculum around print reading, math, and general shop information and advertised the program in the local newspaper. Applicants were instructed to report to ICC for classes, and TPC personnel taught the subject matter.

Pre-employment training has remained a strong component of the Tecumseh Products Company success story in Mississippi. Since January 1990, ICC and TPC have worked together to conduct 105 pre-employment classes for more than 900 prospective employees. This training has helped the firm evaluate and confirm the aptitudes of potential employees without obligating the company or the participants.

PROFILE OF PRE-EMPLOYMENT TRAINING

Year	# Classes	# Participants	Support
1990	6	120	$3,600
1991	16	138	$6,560
1992	41	350	$15,180
1993	16	94	$8,000
1994	15	110	$8,366
1995	11	89	$7,879

ADULT BASIC EDUCATION

Aware that the work of the firm in the years ahead was to become more technical and that the overall education level of employees would have to improve in order for them to understand and operate future equipment, Tecumseh Products Company asked ICC to begin offering Adult Basic Education classes in-plant in 1985. The classes have continued to be offered in-plant at times convenient to employees, and there is no cost for the classes.

Today more than 85% of TPC's employees hold a high school diploma or the equivalent -- a percentage well ahead of other firms in the region. While the need for adult basic education classes in the future is expected to diminish, ICC and TPC maintain a state of readiness and a commitment that permits the offering of classes should the need arise or should employees desire them.

APPRENTICESHIP TRAINING

The shortage of skilled labor in Northeast Mississippi spurred the development of Tecumseh Product Company's first apprenticeship program in the mid-1970s. Using curricula from the Michigan plant and the U. S. Department of Labor National Apprenticeship Board as a guide, Tecumseh Products Company and Itawamba Community College developed the firm's first apprenticeship program in the fall of 1976. In the spring of 1977, the first apprenticeship class was offered to TPC employees interested in becoming skilled crafts persons.

Today, the apprenticeship training curricula have been revised and refined using extensive workplace audits, employee interviews, and modern curricula design techniques. Programs of study exist for electronic technicians, manufacturing (general maintenance) technicians, tool and die makers, and tool grinders and range from 27 semester credit hours to 59 semester credit hours in length. During an average year, more than thirty TPC employees are enrolled in apprenticeship program classes taking an average of six semester hours of coursework per semester.

UPGRADE TRAINING/RETRAINING

Employee ***upgrade training*** is designed to prepare individuals for advancements in responsibilities or changes in job classifications. ***Retraining programs*** are designed to teach existing employees new skills needed for production or technological changes. Between 1986 and 1990, TPC and ICC engaged in substantial retraining and upgrade training to help employees cope with the transition to Computerized Numerical Controlled (CNC) machine tools and other electronic-based production and quality control tools.

Classes in math, blueprint reading, CNC operations and CNC programming made up a majority of the training and were essential to the RK product start-up in April 1987 and

AV line improvements made during these years. More than $ 34,048 in state and local support was provided to Tecumseh Products Company for employee development and transition during this growth period for TPC.

In the early 1990s, TPC and ICC cooperated to offer introductory computer classes to company employees upgrading their skills for business and production computer-based systems. Classes were offered on a voluntary basis during the evenings and on week-ends. More than 80 employees signed up for the sixteen hour training sessions.

Today, several retraining and upgrade training programs operate on a regular basis. **Approximately 75% of the individuals who have participated in these programs have received advancements in responsibilities or experienced changes in job classifications.**

CUSTOMIZED TRAINING <

With the announcement of plans to construct a new facility for the SF product in December of 1990, TPC and ICC expanded its relationship to include customized training and other forms of educational collaboration. In this new endeavor the community college coordinated resources of the state and the community college to assist TPC with training on SF product knowledge, SF start-up, CNC programming and operations, troubleshooting fluid power systems, electronic assembly, repair and rework, AC and DC drives, serial data communications, and troubleshooting discrete electronic circuits.

Since January 1991, Tecumseh Products Company has received more than $271,257 in state support for customized training to develop high performance employees for more efficient plant operations. **Currently, more than $1.75 million in customized training is planned for 1995.**

FRONT-LINE LEADERSHIP TRAINING <

In May 1991, Tecumseh Products Company began using the nationally recognized **Zenger-Miller Front-Line Leadership Training Program** offered by Itawamba Community College with twenty-four of its employees. The purpose of this training was to develop human relation, problem solving, and team concept skills. In August another twenty-four employees received selected modules of the training program to enhance and enrich skills needed for human relations and problem solving.

In July 1993, TPC employees participated in ICC's introductory session of the internationally recognized **Kepner-Tregoe Problem Solving and Decision Making Program**. TPC participation in leadership and management training represents a major commitment to the management of change and innovation at the Lee County facilities and continues to be a major area of emphasis in employee education and training.

TECHNICAL TRAINING

The technical training arranged between ICC and TPC is designed to meet a broad range of work force development and continuous improvement needs. This type of training is normally provided when specific skills need to be developed, improved, or enriched. These classes are typically taught on the college campus in "corporate class" learning spaces at a time arranged between ICC and TPC.

The **Allen-Bradley Programmable Logic Controller Training** provided during the third and fourth quarters of 1991 is representative of the type of training ICC and TPC have collaborated on in this category. During this time emphasis was placed on Allen-Bradley PLC/5 Level I, Level II, and Advanced Training. Each session was designed for thirty hours of instruction with a maximum of twelve participants. During these two quarters, sixteen classes were taught for 157 participants at a market price of about $13,800.

Today much of the apprenticeship training is based on **credit courses** that originate in the college's credit programs. To insure that the education and skill levels of workers match the demands of their jobs, ICC and TPC analyze the need for technical education at least biannually and cooperate to schedule classes needed by the firm.

VIDEO TAPE DEVELOPMENT

The December 1990, announcement of Tecumseh's plans to build the **Quadro-Flex compressor** in Lee County, Mississippi, set the stage for ICC and TPC to collaborate with Mississippi State University's Research and Curriculum Unit on video tape development. Following the preparation of a script for the training of employees on SF product knowledge and assembly methods, ICC and RCU staff traveled to the Tecumseh Research and Development Center in Dundee, Michigan, to film assembly processes for the new SF product.

Upon returning to the state, TPC personnel met with Mississippi State University Research and Curriculum Unit staff to edit the raw footage and produce a training video tape for the new Quadro-Flex compressor. After the videos were completed they became the property of Tecumseh Products Company and were integrated into the start-up training program for employees scheduled to work in the SF facility. The total time invested in the project was estimated to be 80 hours at an estimated market price of $60,000.

In 1994 two additional video tapes were produced. **With a focus on the AV and RK compressors**, these video tapes have now been viewed by more than 600 employees and are a strategic part of the employee orientation program for every new employee of the Tecumseh Products Company firms in Lee County, Mississippi. The market price of these videos is estimated to be about $50,000 each.

SUMMER COOPERATIVE PROGRAM

In 1992 Itawamba Community College and Tecumseh Products Company developed an agreement to provide a **cooperative summer employment program for students** of the community college's Applied Science and Technology programs. The purpose of the program was to provide TPC with quality temporary summer employees while giving ICC students hands-on experience in a "world-class" manufacturing environment.

After selection criteria and application procedures were defined, seven ICC students were selected for employment in the initial summer cooperative program. The partnership remains intact today, and TPC uses it any time work force demands necessitate the use of temporary employees to meet production schedules. It is truly a "win-win" situation for TPC and ICC students.

INSTRUCTOR WORK EXPERIENCE AGREEMENT

Perhaps one of the most beneficial arrangements between ICC and TPC is an agreement that encourages the community college's faculty to leave the classroom and spend time in TPC's facilities working side by side with TPC technicians. Typically **faculty spend four to six weeks working in the plant during the summer** to acquaint themselves with the manufacturing processes and the day-to-day problems their students encounter in the workplace.

The first instructor internships took place in the summer of 1991 when three ICC instructors spent six weeks working in the Tecumseh Products Company plant in Tupelo. Today the ICC/TPC Partnership agreement permits and encourages the return of ICC staff to the Tecumseh workplace for a regular update on modern manufacturing practices and is a mutually beneficial arrangement for both entities.

ADVANCED TECHNOLOGY TRAINING

In August 1991, with the assistance of the State Board for Community and Junior Colleges, Itawamba Community College and Northeast Mississippi Community College received funding from the Major Economic Impact Authority of the Mississippi Department of Economic and Community Development for a **Northeast Mississippi Regional Advanced Technology Training Initiative**. As a part of this initiative, ICC was to develop a Center for Advanced Manufacturing Technology.

Since that time much of the planning and development for advanced technology training at ICC has been done. The vision for the ATC was crafted by many people, including staff from Tecumseh Products Company. Today, **ICC's "corporate class" learning spaces emulate much of the computer integrated manufacturing environment found at TPC and other firms in Northeast Mississippi**. And as one would suspect, TPC led the way in using these services.

PARTNERSHIP FOR EXCELLENCE

In 1989 when the Itawamba Community College Foundation Board of Directors began its **Partnership for Excellence Campaign** to help the community college meet the challenges of the 21st century, Tecumseh Products Company was there. With a generous $50,000 donation from the **Herrick Foundation**, TPC helped ICC raise the more than $600,000 needed to qualify for a $1.2 million incentive grant from the U. S. Office of Education.

In 1994, the Herrick Foundation again invested in the Partnership for Excellence between ICC and TPC. The $250,000 donation made to the ICC Foundation Board of Directors is being used as seed money for the construction of an **Advanced Education Center** that will serve as the hub of a Regional Education Park being developed around the Itawamba Community College Tupelo Campus. Today the contributions of the Herrick Foundation provide the ICC Foundation with some of the resources needed to secure the community college's role in world class skills and technology training for Northeast Mississippi. The Partnership for Excellence continues.

LOOKING AHEAD

In 1995 and the years to come, the partnership between Itawamba Community College and Tecumseh Products Company may well become Mississippi's premier industry-education partnership. Currently, Tecumseh Products Company plans for Itawamba Community College to assist them in managing more than $6.0 million in education and training for the Tupelo and Shannon plants between 1995 and 1998. This commitment to continuous improvement through education and training is just one of the many reasons Tecumseh Products Company is an **ISO 9002 certified manufacturer** and a **"world class" corporate competitor** in the air conditioning and refrigeration compressor manufacturing industry.

The ICC/TPC Partnership that began in 1976 is obviously intact today. Much has been done, much is being done, and much remains to be done. The accomplishments of the program are a result of teamwork and collaborative commitments to quality and continuous improvement. With mutual interests in the future, Itawamba Community College and Tecumseh Products Company plan to continue the partnership that has proven to be so beneficial over the past 19 years. Business will be conducted professionally with a high level of awareness of what is at stake. It can be done. It will be done.

APPENDICES

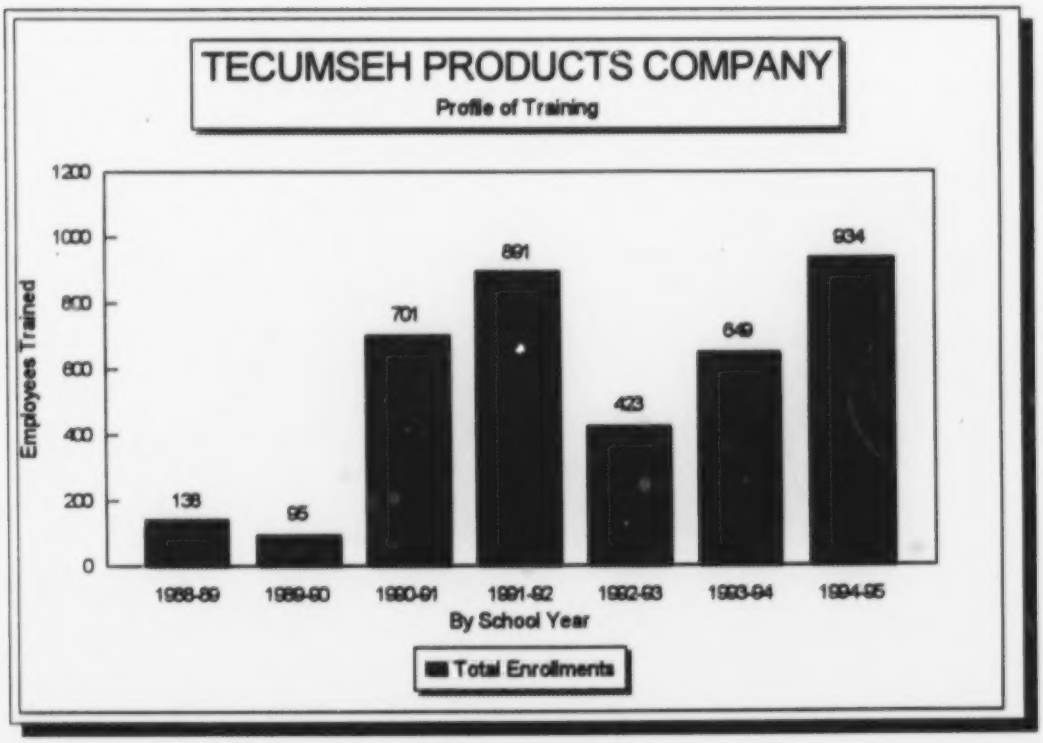
ICC/TPC PARTNERSHIP
Development Chronology

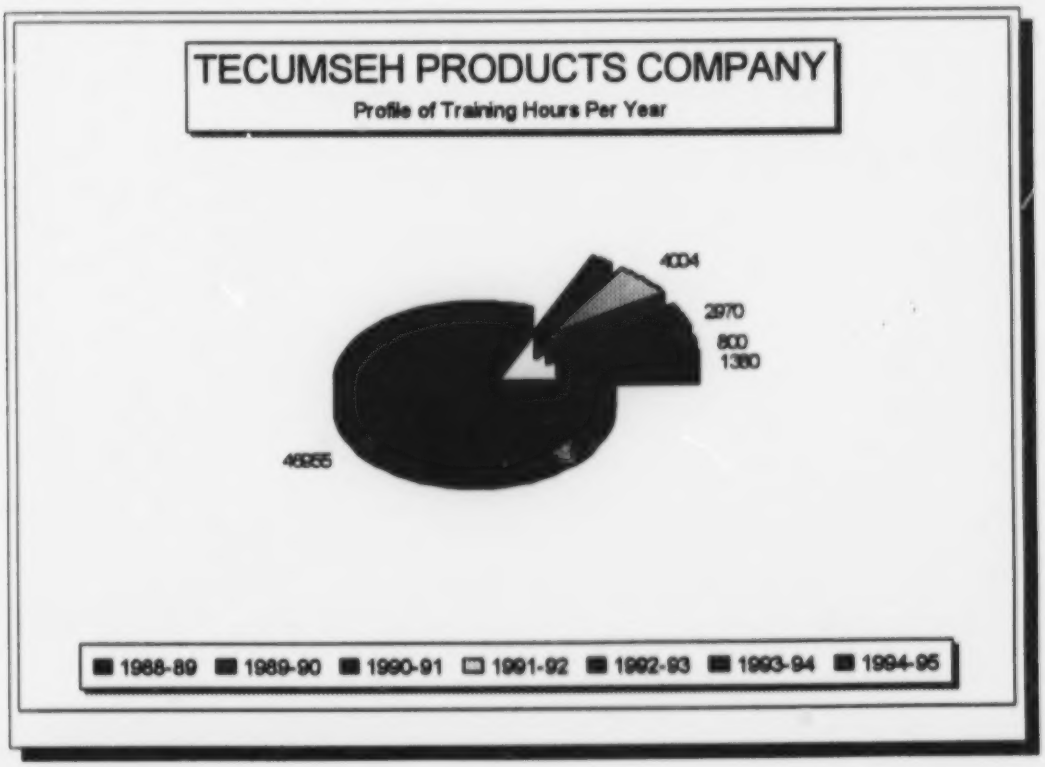
SCHOOL YEAR	ACTIVITY/EVENT
1975-76	Video Tape Development Pre-Employment Training
1976-85	Apprenticeship Program Development Apprenticeship Program Training
1985-86	Apprenticeship Program Training Adult Basic Education Classes CNC Mobile Unit Located on Plant Site
1986-87	Apprenticeship Program Training Customized Training Upgrade Training/Retraining
1987-90	Apprenticeship Program Training Customized Training Upgrade Training/Retraining
1990-91	Pre-Employment Training Apprenticeship Program Training Workplace Audits Customized Training Upgrade Training/Retraining Technical Training Front-Line Leadership Training
1991-92	Pre-Employment Training Training Manual Development Apprenticeship Program Training Customized Training Upgrade Training/Retraining Technical Training Front-Line Leadership Training Summer Cooperative Program
1992-93	Pre-Employment Training Apprenticeship Program Training Equivalent of a Full-Time Industrial Trainer Added Introductory Computer Classes

	Upgrade Training/Retraining
	Technical Training
	Summer Cooperative Program
1993-94	Pre-Employment Training
	New Employee Orientation
	Video Tape/Training Manual Development
	Apprenticeship Program Training
	Customized Training
	Upgrade Training/Retraining
	Technical/Specialized Training
	Quality Control Training
	Mobile Unit CNC Training
	Full-Time Training Coordinator
1994-95	Pre-Employment Training
	New Employee Orientation
	Video Tape/Training Manual Development
	Apprenticeship Program Training
	Customized Training
	Upgrade Training/Retraining
	Technical/Specialized Training
	On-the-Job Training
	Quality Control Training
	Mobile Unit CNC Training
	Maintenance Management Training
	Full-Time Training Coordinator

ICC/TPC PARTNERSHIP
Profile of Financial Support
State of Mississippi
1988-1995

YEAR	# TRAINED	# HOURS	STATE REIMBURSEMENT
1988-89	138	1,380	$ 13,800.
1989-90	95	800	$ 8,800.
1990-91	701	2,970	$ 64,182.
1991-92	891	4,004	$ 62,700.
1992-93	423	324	$ 8,540.
1993-94	649	926	$ 27,961.
1994-95 (Jul - Dec 1994)	934	46,955	$ 777,755.


TECUMSEH PRODUCTS COMPANY
Profile of Training
Employees Trained
1200
1000
800
600
400
200
0
136
95
701
891
423
649
934
1988-89
1989-90
1990-91
1991-92
1992-93
1993-94
1994-95
By School Year
Total Enrollments


TECUMSEH PRODUCTS COMPANY
Profile of Training Hours Per Year
4004
2970
800
1380
46955
1988-89
1989-90
1990-91
1991-92
1992-93
1993-94
1994-95

Northeast Mississippi Daily Journal, Tupelo, Mississippi
Thursday, February 10, 1994
By Glenda Sloan

JACKSON - Tecumseh Products Co. plans an $80 million expansion at its Lee County manufacturing facilities, a move expected to create 400 new jobs over the next three to four years.... Todd W. Herrick, president and chief executive officer of the Michigan-based firm, credited support from Gov. Kirk Fordice, state and county leaders, as well as the work ethic of its employees at its two Tupelo plants for Tecumseh's decision to expand.

"Tupelo was chosen because of state and local leaders, 'attitude toward job creation, your willingness to create the infrastructure that we need... our people, their attitude, their willingness to accept change, their willingness to educate themselves on their own time,'" Herrick told those gathered for a state news conference Wednesday inn the Capitol rotunda.

... Herrick said ICC's assistance with the training and retraining of Tecumseh's employees was another reason the company chose Tupelo.

Presently any prospective Tecumseh employee must go through a 20-hour training course at ICC. The community college also assists with management training.

"We would not have stayed in Tupelo if it were not for the training support." Herrick said.

The Clarion-Ledger, Jackson, Mississippi
Thursday, February 10, 1994
By Yolanda Butler

... (Governor) Fordice said skilled laborers trained by Mississippi's educational system must set the tone for the creation of jobs across the state.

Tecumseh has had a partnership with Itawamba Community College to train workers for employment since it came to Tupelo in 1976.

"Government loves to talk about training, but bureaucracy doesn't have a clue," Fordice said. "The only meaningful training is training for the exact needs of a company."

The Quest Continues...